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EXAMINER

MILLS, DONALD L

ART UNIT PAPER NUMBER

2662

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/801,481

Applicant(s)

CHEN ET AL.

Examiner

Donald L. Mills

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-13 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 14-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 19, the claim specifies *receive a test signal made of repeating sections, the sections further including a number of segments* (See claim 19, lines 2-3.) However, it is unclear from the context of the claim if the received test signal is a new test signal or the test signal recorded by the recording unit of parent claim 18.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 18, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ashlock et al. (US 4,393,491), hereinafter referred to as Ashlock.

Regarding claims 18 and 20, Ashlock discloses an automatic self-test system for a digital multiplexed telecommunication system, which comprises:

Art Unit: 2662

*A signal receiver (Referring to Figure 1, controller A. See column 7, lines 40-48.)*

*A recording unit for recording test signals received by the receiver, the test signals having a predefined pattern of variation in average power level (Referring to Figure 1, maintenance card 40 includes display circuitry for indicating when and on what line a failure has occurred, thereby storing and examining the test signal for errors, the test signal comprises a one-kilohertz test tone (predefined pattern of variation). See column 7, lines 51-53.)*

*A processor configured to: Analyze the recorded test signal to detect irregularities using the predefined pattern of variation as a standard/Determine if packet loss occurred during transmission of the signal through the packet network/Report test signal packet loss statistics (Referring to Figure 1, maintenance card 40 includes display circuitry for indicating when and on what line a failure has occurred, thereby storing and examining the test signal for errors, and controller addressable alarm when a malfunction occurs such as a loss of signal (loss of packet) on the audio line circuitry. See column 7, lines 51-53.)*

Regarding claim 21, Ashlock discloses *wherein the estimated pattern is determined by a predefined algorithm shared with the source signal generators (Referring to Figure 1, maintenance card 40 includes display circuitry for indicating when and on what line a failure has occurred, thereby storing and examining the test signal for errors (by definition, the correct value must be known to draw a comparison), and controller addressable alarm when a malfunction occurs such as a loss of signal. See column 7, lines 51-53.)*

***Claim Rejections - 35 USC § 103***

Art Unit: 2662

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashlock et al. (US 4,393,491), hereinafter referred to as Ashlock.

Regarding claim 1, Ashlock discloses an automatic self-test system for a digital multiplexed telecommunication system, which comprises:

*Generating a test signal at a source end point coupled to the packet network, the test signal having a predefined pattern of variation in average power level* (Referring to Figure 1, controller A (source end point) generates a test signal for the audio link circuitry (packet network), the test signal comprises a one-kilohertz test tone (predefined pattern of variation). See column 7, lines 40-48.)

*Transmitting the test signal to a destination end point* (Referring to Figure 1, the test signal is sent over the circuitry to the maintenance card 40. See column 7, lines 48-51.)

*Receiving the modified test signal at the destination end point/Comparing the modified test signal pattern to an estimated test signal pattern, the estimated pattern determined by a predefined algorithm/Determining whether the irregularities between the modified test signal and the estimated test signal represent packet loss* (Referring to Figure 1, maintenance card 40 includes display circuitry for indicating when and on what line a failure has occurred, thereby storing and examining the test signal for errors, and controller addressable alarm when a malfunction occurs such as a loss of signal (loss of packet). See column 7, lines 51-53.)

Art Unit: 2662

Ashlock does not disclose *transmitting the test signal to a destination end point in a plurality of packets having mutually variable sizes.*

Ashlock teaches transmitting the test signal is sent over the circuitry to the maintenance card 40 in a fixed byte size (See column 7, lines 48-51.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement fixed and variable message length transmission in the system of Ashlock. One of ordinary skill in the art would have been motivated to do so in order to perform error protection in message transmission, improve test signal resolution, and eliminate errors generated by signal noise.

Regarding claim 2, the primary reference further teaches *wherein the test signal includes repeating sections, the sections further including a number of segments, the length of each segment equal to the smallest packet size in the packet network* (Referring to Figure 1, the one-kilohertz test tone, by definition comprises a number or repeating sections which can be divided into segments in which the length is equal to the smallest detectable signal in the audio circuitry. See column 7, lines 17-24.)

Regarding claims 3 and 15 as explained above in the rejections statement of claims 1 and 14; Ashlock discloses all of the claim limitations of claims 1 and 14 (parent claim).

Ashlock does not disclose *wherein the lengths of the repeating sections are greater than the largest packet size in the packet network.*

Ashlock teaches a one-kilohertz test tone comprises an eight-bit word format with eight digital words.

Art Unit: 2662

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a digital word comprising more than eight-bits. One of ordinary skill in the art would have been motivated to do so in order to stress test the system.

Regarding claims 4 and 16, the primary reference further teaches *wherein the average power level of each segment is detectably different from average power levels of each of the other segments in a given section* (Referring to Figure 1, the average power of each digital word is by definition detectably different than each of the other digital words based upon the digital words location in reference to its neighboring digital word.)

Regarding claims 5 and 17 as explained in the rejection statement of claim 1, Ashlock discloses all of the claim limitations of claim 1 (parent claim).

Ashlock does not disclose *wherein the segment length is set to optimize an amount of data bits included in a packet taking into account in-network delay, and the section length is equal to four times the segment length.*

Ashlock teaches a one-kilohertz test tone comprises an eight-bit word format with eight digital words, which is optimal for a voice network wherein the samples are taken at 8,000 samples/sec and encoded with 8-bits per sample.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the digital words with 32-bit representation. One of ordinary skill in the art would have been motivated to do so in order to check for signal loss of long data streams.

Regarding claim 14, Ashlock discloses an automatic self-test system for a digital multiplexed telecommunication system, which comprises:

Art Unit: 2662

*A signal generator configured to generate a test signal* (Referring to Figure 1, controller A generates a test signal for the audio link circuitry, the test signal comprises a one-kilohertz test tone. See column 7, lines 40-48,) *the test signal including repeating sections, the sections further including a number of segments, the length of each segment equal to the smallest packet size in the packet network* (Referring to Figure 1, the test signal comprises an eight-bit word format (sections) with eight digital words, the word is comprised of bits which is the smallest size in the audio link circuitry. See column 7, lines 17-24.)

*A transmitter adapted to be coupled to a packet network* (Referring to Figure 1, line cards 24 comprise transmitters coupled to the audio link circuitry.)

Ashlock does not teach *the test signal including repeating sections of varying size*.

Ashlock teaches transmitting the test signal is sent over the circuitry to the maintenance card 40 in a fixed byte size (See column 7, lines 48-51.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement fixed and variable message length transmission in the system of Ashlock. One of ordinary skill in the art would have been motivated to do so in order to perform error protection in message transmission, improve test signal resolution, and eliminate errors generated by signal noise.

#### ***Allowable Subject Matter***

7. Claims 6-13 are allowed.



Art Unit: 2662

8. Claims 19-20 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-5 and 14-17 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed January 5, 2005 have been fully considered but they are not persuasive.

### **Rejection Under 35 USC § 102**

On page 8 of the remarks, regarding claim 18, the Applicant argues Ashlock does not disclose a processor configured to *determine if packet loss occurred during transmission of the signal through the packet network, having a predefined pattern of variation in average power level and reporting test signal packet loss statistics*. The Examiner respectfully disagrees. With a literal, broad and reasonable interpretation in mind, Ashlock discloses maintenance card 40 includes display circuitry for indicating when and on what line a failure has occurred, thereby storing and examining the test signal (with a predefined pattern of variation in average power level equal to null) for errors, the test signal comprises a one-kilohertz test tone (See column 7, lines 51-53.) Ashlock further discloses maintenance card 40 includes display circuitry for indicating (reporting test signal packet loss statistics) when and on what line a failure has occurred, thereby storing and examining the test signal for errors, and controller addressable alarm when a malfunction occurs such as a loss of signal (loss of packet) on the audio line

Art Unit: 2662

circuitry (See column 7, lines 51-53.) Therefore, Ashlock discloses Ashlock a processor configured to *determine if packet loss occurred during transmission of the signal through the packet network, having a predefined pattern of variation in average power level and reporting test signal packet loss statistics.*

On page 8 of the remarks, regarding claims 3 and 15, the Applicant argues modifying the invention of Ashlock to *implement a digital word comprising more than eight-bits in order to stress test the system* would render the combination unusable. The Examiner respectfully disagrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a digital word comprising more than eight-bits to more accurately represent the one-kilohertz tone. One of ordinary skill in the art would have been motivated to do so in order to stress test the system.

On page 9 of the remarks, regarding claims 5 and 17, the Applicant argues Ashlock does not disclose, teach, or otherwise make obvious *wherein the segment length is set to optimize an amount of data bits included in a packet taking into account in-network delay, and the section length is equal to four times the segment length.* The Examiner respectfully disagrees. Ashlock teaches a one-kilohertz test tone comprising an eight-bit word format with eight digital words, which is optimal for a voice network wherein the samples are taken at 8,000 samples/sec and encoded with 8-bits per sample. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the digital words with 32-bit representation. One of ordinary skill in the art would have been motivated to do so in order to check for signal loss of long data streams due to increased bit encoding.

*Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills

*DLM*

June 7, 2005



**JOHN PEZZLO  
PRIMARY EXAMINER**